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ABSTRACT

Local high school programs represent a major change in Alaska's rural secondary school policy. This report examines the type of local high school program desired by the residents of three rural villages as a basis for designing village high school facilities. Each village is described by location, climate, population, housing, health facilities, average income and source, commercial employers, village governance system, and elementary school enrollment. Surrounding villages are identified and a prediction made of the number of students from these villages that would attend a local high school. Community interests and expectations are discussed and nine examples are listed of native culture courses requested in the villages that are not included in state curriculum guides. The facility recommendations include opportunities for basic subjects, music, homemaking, practical arts, physical education, and prevocational opportunities. In addition, schools should be constructed so that other career opportunities may be provided, and so that programs of the types requested by parents in the three villages can be offered. (MLF)

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A REPORT

EDUCATIONAL FACILITIES FOR ANIAK, EMMONAK AND MOUNTAIN VILLAGE AREA HIGH SCHOOLS

Submitted to:

Regional Schools and Boarding Home Program
of the
Alaska Department of Education

Prepared by:

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and
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PREFACE

by Judith Kleinfeld

This report examines the type of local high school program desired by the residents of Emmonak, Mountain Village, and Aniak as a basis for designing village high school facilities. Local high school programs represent a major change in Alaska's rural secondary school policy. Rather than placing students far from home in the alien cultural context of boarding schools or boarding homes, students will be able to attend high school in their home village. Such an approach has many advantages. It avoids separating students from their families, which often causes severe emotional difficulties for both the students and their parents. It makes possible a high school education for rural students who would have dropped out of schools away from home either because of problems at the school or because of their family's need for help at home. Hopefully, local high schools will also help to reduce the problem of the split cultural identities of students who find after a high school education away from home that they cannot be comfortable either in the village or in the city.

While local high schools have many advantages, it is important to recognize that they may have serious disadvantages as well. Emotional appeals to bring the "orphan children" back home to their families should be tempered by the realization that village high schools alone cannot offer the range of experiences and course options available to students in large high schools. The danger is, and it is a substantial danger, that a village high school program will be little more than supervised correspondence study or repetition of elementary school work. With the settlement of Native land claims and the need of regional and village

corporations for business administrators, attorneys, program directors, and other high level personnel, Native leaders are stressing the importance of preparing highly educated Native youth to assume these critical occupational roles. Local high schools that provide limited, low quality education may severely retard the educational development of village students.

The goal of a secondary school in the student's home village and the goal of a high quality secondary school education that provides good preparation for college need not be incompatible. However, reaching both these goals at the same time requires very careful educational planning. Two components--the availability of secondary school choices and the availability of broadening experiences--are essential if these goals are to be achieved.

First, secondary school options must be available for rural students. It is essential to recognize that Native high school students, like high school students anywhere, have different aspirations, different interests, and different capabilities. Any monolithic educational policy--whether it is a high school in every village or all high schools away from home--will fail to meet the needs of certain groups of rural students. Our research on the effects of different types of high schools suggests, for example, that some rural students have no desire to leave their home village where they plan to live as an adult. Many of these students have academic achievement levels of 4th grade or below which makes it difficult for them to achieve success in an urban high school. To place such students in high schools away from home is an educational absurdity. They must suffer the emotional trauma of separation and yet they need and are placed in a basic skills academic program that they could have as easily obtained in a village school without the emotional costs.

However, our research also suggests that many other rural students are eager to experience new places and possibilities and will not remain at home for high school when the opportunity is offered. Many of these students have academic capabilities as high if not higher than those of most urban students. Forcing them to remain for four years in a village high school might stunt their development while in an urban setting such students often bloom into confident young adults with diverse interests and talents.

In short, to achieve equality of educational opportunity so that village students may have the same possibilities for development as students elsewhere, options must be provided. Students from rural high schools with 100 students or less should be able throughout their high school years to choose between attending a local high school or a school away from home. In this way, the needs may be satisfied of both the student who desires basic academic instruction without leaving home and the student who desires advanced science, language, and vocational courses and new experiences.

Second, experiences must be provided in local high school programs that widen students' horizons and make it possible for them to make informed choices about the type of high school and the type of future they desire. There are many ways to accomplish this while students are based in a village high school. The Upward Bound program, where rural students spend a month on a university campus experiencing college life, is one promising method. The Dillingham Foreign Study Program, where rural students travel to a foreign country, is another approach that appears to have had substantial success in expanding rural students' ideas about their own possibilities and the alternatives open to them.

So much secondary school funding is being spent in Alaska on non-educational expenses. Providing food and a dormitory for students living away from home costs about $4000 per student annually. If this amount of money were instead spent on travel and similar educational programs while the students were based in the village high school, the quality of education available at local high schools might be higher than at conventional secondary schools. The danger, however, is that the local high schools may be viewed as a way to save money. Placing a pre-fab building, a high school teacher, and some materials in the village and the educational program ends there.

In sum, the local high school program and facilities recommended in this report must be viewed in the context of rural secondary school policy as a whole. High schools in every village are badly needed, and they have been postponed far too long. To provide educational opportunities to rural students which are equal to those of urban students, however, requires much more than a village high school. It requires first that rural high school students have the option of attending a local high school or other types of schools so that they may select the type of education that meets their goals and abilities. It requires also that local high schools, while based in the village, provide the experiences that broaden rural students' awareness of their own possibilities and enable them to make informed choices about their futures.

INTRODUCTION TO ARCHITECTURAL PSYCHOLOGY

Architectural psychology, a new science developing more rapidly in Europe than on this continent, asks the question, "After the main uses of the building have been satisfied, the walls stay up and the sewage stays down, what is it about these forms, these elements and their arrangements that affect people's health, attitudes and satisfaction."[1] In designing our schools, we in Alaska cannot easily assume that the main uses of the building will be satisfied. Recommendations for a school plant must be based upon consideration of geographical and climatological conditions of an area first, so that the walls of the building will stay up (and stay warm) and the sewage stay down. Data on these conditions will begin the individual descriptions of the three villages under study.

Research on the effect of the man-made environment on rural Alaskans has not been done. However, findings of papers on the relationship of environment to aspects of human response read at a recent conference of architects and psychologists may have relevance for remote Alaskan villages.

Terrence R. Lee studied an urban area to determine whether residents viewed the area as composed of neighborhoods. He found that housewives could draw maps delineating boundaries of their neighborhoods. "When the maps were superimposed, however, there was almost no coincidence of boundaries, even for residents living close to one another. It appears that neighborhood, though highly salient, is personally unique."[2]

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[1] Wools, Roger M., "The assessment of room friendliness," in Architectural Psychology, ed. David V. Canter (London: RIBA Publications Limited, 1970), pg. 49.

[2] Lee, Terrence R., "Do we need a theory?" in Architectural psychology, pg. 23.

Lee's findings may have significance if we consider the school as a community center. Many observers have noted the small social groupings in Alaskan villages, often in conflict or uncommunicative with each other. Planners may wish to situate the school-community center in a part of town which will not alienate any group. However, if neighborhoods exist in the minds of residents, rather than in geographical areas, studies respecting social impacts of locations of the building may become extremely complex.

Ifan Payne has studied an entirely different aspect of the environment--color. Payne used an experimental method to measure emotional response, that of eye pupil dilation. He found response to the color red to be significantly greater than response to blue, and this response in turn significantly greater than response to white.[1] We cannot utilize these findings to recommend color schemes in Alaskan rural schools because emotional response as measured by pupil dilation of European architectural students and housewives certainly cannot be assumed indicative of the emotional response of Alaska Natives. However, the architects may wish to make striking use of color in one part of each building, then note student reaction to it, for future reference.

Roger M. Wools' paper, "The assessment of room friendliness" may be important to architectural thought in Alaskan school building. While noting that lack of windows in a school has been shown to cause no significant difference in learning rate, he states that, "windows were considered important in the assessment of friendliness of the room, more so by housewives than by first year architects."[2] Because of heat loss

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[1]Payne, Ifan, "Pupillary responses to architectural stimuli" in Architectural psychology, pp. 37-39.

[2]Wools, op. cit., pp. 52-3.

through windows in the extreme low temperatures, architects may be tempted to design windowless buildings which promise lower heating costs. However, this could also lower the school's potential of being accepted by the village people, if Eskimo housewives consider windows in rooms a friendly feature.

Associates of the Center for Northern Educational Research will be watching the literature for developments in architectural psychology. It is hoped that studies on the effects of the man-made environment on residents of rural Alaskan communities will eventually be undertaken.

MOUNTAIN VILLAGE

Mountain Village is located on the north bank of the Yukon River at 62°05' N. latitude and 163°43' W. longitude.[1] The village (elevation 39 feet) is built against low rolling hills (elevation 300-500 feet) and is always above flood level in the spring. Sparse vegetation consists of willow brush and other ground hugging plant life. Across the Yukon is low tundra which floods annually. Some of the village's buildings are founded on bedrock and geologists are studying a site for the school up behind the village where bedrock is reached six to eight feet down. Surrounding communities within 50 river miles whose children might attend the high school include Chevak, Andresky, Pitka's Point, Pilot Station and Scammon Bay.

Climate in this region is semi-arctic, with temperatures averaging 55° in the summer, and -5° in the winter, but occasionally dropping to -40°. According to the National Weather Service, wind speeds reach 70 to 80 miles per hour. (See Wind Speeds for Use in Structural Design, in Appendix, pages VI-X.)

Population is currently estimated to be 474 people, predominantly Yupik Eskimo. There are approximately a dozen white people in Mountain Village. Residents live in small frame and log houses, most of which are substandard and in need of major repairs.[2] The Alaska State Housing Authority has recently built twenty one-and two-bedroom homes of plywood on pilings. These are equipped with plumb-

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[1] Orth, Donald J., Dictionary of Alaska Place Names. (Washington, D.C.: United States Government Printing Office, 1971) pg. 661.

[2] Application of Mountain Village Council to Alaska State Housing Authority, ISEGR files. Fairbanks: University of Alaska, Institute of Social, Economic and Government Research. ND.

ing, including flush toilets, and are the only buildings in the town, aside from the school and Sheppard complex, to have modern sanitary facilities. However, the Public Health Service is just completing a water and sewage treatment system in the village so that sanitation problems may soon be minimized. A plentiful supply of good water is expected. Most homes receive power from the Alaska Village Electric Cooperative plant. However, AVEC's local representative states that a new generator will be necessary to meet the electrical needs of a high school and AVEC will require one year for its purchase and installation.[1]

Adult residents of Mountain Village earn an average annual income of $1,100.00 from cannery employment, commercial fishing, trapping, government employment, the National Guard and work in local stores. There is full employment for one month of the year during the King Salmon season.

Natural resources available to the people include fish (salmon, pike, grayling, whitefish and black fish), game (moose, wolverine, fox, mink, rabbit, muskrat, otter, ptarmigan, duck and geese) and berries. The men of the village are subsistence hunters and fishermen. Mink trapping is important in the fall.

The only commercial employer in the village is the Sheppard Cannery which hires all women willing to work during salmon season. The men fish for the cannery or one in St. Mary's. Sheppard's also own the largest store, the Sheppard Trading Company. There are two other stores - a Native Cooperative and another Native-owned shop. Other large buildings in town are the Catholic Church, the Swedish

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[1]According to a conversation between the representative and Mr. Frank Berry.

Covenant Church, the National Guard Armory, the former Catholic Church (now boarded up) and a small community hall in fair condition.

Mountain Village is a second class city, governed by a seven member Village Council. It was formerly a federal reserve, under the trusteeship of the B.I.A. The village is accessible by Wien Consolidated Airlines three days a week (weather permitting) year-round, in the summer, by boat. Private planes fly into and out of the village often. The airstrip is gravelled, 2200 feet long. Black Navigation Lightering Service runs barges into Mountain Village from Bethel.[1]

The Bureau of Indian Affairs funds the five room elementary school in Mountain Village. Following is its description of that school:

> School & Quarters: The school and quarters are new at Mt. Village. They are in separate buildings about 100 feet apart. The quarters contain two, two bedroom apartments with large kitchens, bathroom, and frontroom. The bathroom has tub, shower, and flush toilets. Both apartments are heated with forced air furnaces and are controlled by thermostats. There is ample closet and storage space. There is a complete water storage and pressure system. Water is obtained from a well, and from a nearby creek. There is a big light plant with three generators. Electricity is ample and the two quarters share an electric

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[1] Community Fact Survey, ISEGR files. Fairbanks: University of Alaska, Institute of Social, Economic and Government Research. ND.

dryer. Each apartment has a refrigerator and two freezers. *The quarters are basically furnished including, stove,* refrigerator, washer, but not bedding, linen, dishes, small appliances, radios, or kitchen utensils. The school is a complete self-contained 4 classroom unit. It contains a kitchen, bathroom, storage room, office, and medical clinic. It too is heated with forced-air furnaces and is completely supplied with water and flush plumbing.[1]

Six teachers teach 156 students, grades kindergarten through eight. There are presently seven eighth graders, and 18 seventh graders enrolled. Enrollment figures for lower grades in 1971 - 1972 were:[2]

K	1	2	3	4	5	6
16	38	15	17	11	17	16

From these figures, potential local enrollment in the high school can be predicted. Within any four grades there are over fifty students in the village itself.

Community leaders express an interest in making the Mountain Village High School a small area school. They expect that friends and relatives in neighboring villages will send their teenagers to attend the high school. Homes in the town are small, however, and housing extra students will be difficult. Several people suggested that cottages be built for groups of five to ten students from surrounding villages. These students would live in a home-like atmosphere with house parents and the institutional quality of regional boarding homes would be avoided.

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[1] Mountain Village - Station Information, Bureau of Indian Affairs. 1965.

[2] School Reports, School Year 1971 - 72, Total Enrollment in Bureau of Indian Affairs Schools.

Mrs. Edna McLean, associated with the university and originally from Barrow, explained that honor students at Mount Edgecumbe Boarding School lived in cottages, cooked their own meals, paid bills, etc. She said students enjoyed this arrangement and learned a lot about household management from it.

Unfortunately it is impossible to predict how many students will probably attend the Mountain Village High School. Some local students will choose to go to regional boarding schools or to urban high schools, and some who choose this option will return home again. Mr. Ken Davis, member of the school board, estimated that there are about 75 high school students in surrounding villages. The number of students in grades 5 - 8 is listed:

Andesky - no school	Chevak - 64	Pilot Station - 32
Pitka's Point - 6	Scammon Bay - 29[1]	

Total number of students in grades 5 - 8 is 131. If this is added to the Mountain Village enrollment (c. 50) a total of 181 is reached. If half of all high school age students in the area attend this high school, enrollment in four years would be approximately 90 pupils.

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[1]State-Operated Schools Enrollment, Third Quarter 1971 - 72 and Total Enrollment in Bureau of Indian Affairs Schools, School Reports, School Year 1971 - 72.

ANIAK

Aniak is the small community located on an island formed by the Kuskokwim River and the Aniak Slough. It can be located at the grid coordinates of 61°34' N., 159° 31' W.[1] The island has been very susceptible to flooding in the past years which has led to the construction of a fifteen foot levee.

Aniak is a communications center for the middle Kuskokwim area and therefore has a jet airport, FAA Facilities, and RCA communications center. Due to the flooding potential, all of these facilities, including the local state-operated school have been constructed three to four feet above ground.

The climate is fairly moderate with moist cloudy days during the summer months and cold, dry days in winter. The winds have been known to reach extremes of 65 m.p.h. but they are more commonly recorded at 10 - 20 m.p.h. (See Wind Speeds for Use in Structural Design, Appendix, pages VI-X.)

Perma frost does not seem to be much of a construction problem in this area. The often-mentioned problem is flooding in the spring (break-up) time. This seems to occur because those areas farther down the Kuskokwim break up later than portions of the ice nearer the community. The immediate area around Aniak is fairly flat and has a goodly number of spruce trees. There is a small sawmill in operation in the area.

There is no community sewer or water system. Water and sewer needs are met by the installation of wells and septic or holding tanks. Such a set-up will have to

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[1] Orth, op. cit., Pg. 79.

be considered for any high school which is constructed. It should be noted that the well-water - to be drinkable - must first be treated since it has such a large iron content. The present state-operated school and FAA have such facilities for their own use.

Aniak has a population of 228 - 174 Native and 54 non-Native - which produces something of a cross-culture environment. This situation in addition to the lack of any building suitable for community-wide functions has produced a piece-meal approach to many community problems. It appeared that one group would not act for fear of alienating the other; as a result, there has been little concerted effort. It is therefore strongly recommended that a multi-purpose room be included with the construction of any local high school.

Hunting, fishing, and trapping play a large part in the lives of the people of this community. However, there is probably only a small percentage of the population which relies solely on any or all of these activities for its livelihood. The influences of the communication facilities, Northern Commercial Company, Kusko Trading Company, Wien Consolidated Airlines, the state-operated school as well as the relatively easy accessibility to larger communities (Anchorage and Bethel) have tended to alter the life styles of the native portion of the Aniak population.

The present state-operated school in Aniak contains grades one through nine with an enrollment of 74. The building itself consists of facilities for hot lunches (modular cafeteria) with six traditional classrooms, a one-bedroom apartment, and a basement.[1] The area surrounding the school is limited without much of a playground, which makes difficult the construction of a small high school in an adjacent location.

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[1] See floorplan of Aniak elementary school in Appendix, page XI.

Exactly which communities would be contributing students to a high school in Aniak is difficult to determine. Wien Airline records show that students from the following villages pass through Aniak on their way to boarding homes: Anvik, Chuathbaluk, Crooked Creek, Holy Cross, Shageluk, Sleetmute, Stoney River, and Upper and Lower Kalskag. The total number of students enrolled in 5th through 8th grades in these villages if 114.[1] Enrollment in Aniak grades 5 - 9 is 40. If half of all students in the area attend the Aniak high school, enrollment in four years would be approximately 77 students.

One thing is certain: the amount of money alotted for the small high school in this community is definitely too little. The education specifications for the Aniak high school have therefore been drawn up not according to the funds available, but according to what is deemed necessary for an adequate secondary education program there.

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[1] State-Operated Schools Enrollment, Third Quarter 1971 - 72 School Year and School Reports, School Year 1971 - 72, Total Enrollment in Bureau of Indian Affairs Schools.

EMMONAK

Emmonak, formerly named Kwiguk, is located on the bank of the Yukon River, about six miles from the Bering Sea at 62° 04' N. latitude, 164° 30' W. longitude.[1] It is built on the flat sandy soil of the river delta and part of the town is flooded almost every year. The Yukon erodes several feet of its bank annually, which may eventually threaten a number of buildings. Below the tundra is a constant layer of perma frost. Small lakes and sloughs are numerous; the water table is six to ten feet below the surface of the gound. Vegetation consists of low alder and willow bushes.

Since Emmonak is close to the Bering Sea coast, its climate is wet and windy. Summer temperatures average 60° with most rain falling in August and September. Mean winter temperature is 0°. Snowfall is light but because of extremely high winds, drifting is common. (See Wind Speeds for Use in Structural Design, in Appendix, pages VI-X.)

Population is currently estimated at 450, 98% Yupik Eskimo. Residents live in small log or plywood houses, most of which are substandard and in need of repair. The Alaska State Housing Authority has built eighteen one and two bedroom homes of plywood up on pilings, equipped with running water and chemical toilets. The Bionomic Control Corporation of Malvern, Pennsylvania has just put into operation a water and sewage treatment plant which will minimize the sanitation problems of Emmonak during most of the year. This plant will provide 14,000 gallons of water per day but will not treat sewage from flush toilets. It is built to handle sludge from monomatic type chemical toilets.[2]

[1] Orth, op. cit., Pg. 558.

[2] Mr. Bertold Puchtler, Project Advisor, Alaska Village Demonstration Project, requests that architects contact him regarding water and waste treatment for the high school. Call Environmental Protection Agency, Fairbanks.

Homes and businesses in Emmonak are supplied with electricity by the Alaska Village Electric Cooperative. The AVEC representative for Emmonak should be contacted to ascertain whether sufficient power will be available for the school.

The people of Emmonak rely upon fishing for their livelihood. They have set up the Yukon Delta Fish Marketing Cooperative, which operates a cannery and a store. Most of the canned fish is exported to Japan. The Cooperative is a million dollar business, composed of 140 members. It competes for fish with the Northern Commercial Company and the Bering Sea Corporation. In addition to fishing, the men trap mink, otter and foxes, fight fires, guide hunting parties and produce art and craft items. Activities related to commercial fishing and trapping, and subsistence hunting are net repair, harpoon and spear making, boat-building and sled and snowshoe construction.

Large buildings in Emmonak include the Cooperative cannery and store, the Northern Commercial Company store and warehouse, a privately owned store, the BIA elementary school, the National Guard Armory, and Catholic and Baptist churches.

Emmonak is a second class city governed by a seven-member Village Council. It is accessible by Wien Consolidated Airlines three days a week, weather permitting, year-round, and in the summer, by boat. Private planes charter into and out of Emmonak often. It has attracted a number of hunters. The airstrip is ungravelled, 2200 feet long. Barges servicing Emmonak are Yutana Barge Lines on the Yukon and Black Navigation Lightering Service.[1]

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[1] Community Fact Survey, ISEGR files. Fairbanks: University of Alaska, Institute of Social, Economic and Government Research. ND.

The Bureau of Indian Affairs runs an elementary school in Emmonak for grades one through eight. Following is its description of that school:

> School and Quarters. There are four classrooms, two of which are located in the main school building. The main building also has a storeroom, a clinic, a lunch kitchen, an office and a guest room. The other two classrooms are in nearly identical buildings that are a classroom dwelling combination. A third dwelling is a separate house. All quarters are adequately furnished and two have 9' x 12' rugs on the living room floor. The kitchens have an oil range, an apartment size GE refrigerator, a sink and storage. Each dwelling has two bedrooms measuring 9' by 14'. The living rooms are 11' by 14' with the separate dwelling having somewhat larger rooms. The bathrooms have chemical toilets that need daily attention, lavatories and bathtubs. Each utility room has portable laundry tubs, a wringer washer and a large water storage tank. The station has a hot and cold running water system throughout. The water comes from a well. Each building has a water storage tank for storing drinking and cooking water as the high mineral content in the well water makes it unpalatable. The tanks fill with rainwater from the roof in the summer and ice is furnished during the winter months. Each dwelling has a food storage room and floors covered with asphalt tile. Buildings are heated by electricity operated diesel furnaces. A diesel

light plant provided sufficient AC power for the operation of most electrical appliances. The quarters are basically furnished including stove, refrigerator and washer, but not bedding, linen, dishes, small appliances, radio or kitchen utensils.[1]

Enrollment in the BIA school in 1971 - 72 school year was:

1	2	3	4	5	6	7	8[2]
32	18	18	16	13	11	19	18

From these figures, potential high school enrollment from Emmonak can be predicted. There are presently 39 teenagers living away from home, attending boarding schools. Within any four lower grades there are at least 60 students. Population figures show that larger and larger numbers of children may be expected within any four-year age span.[3] However, not all students will choose to stay at home: some will go to regional boarding schools, others will attend urban high schools. Of these some will return home again.

Surrounding villages whose children may wish to attend high school in Emmonak include Acre's Camp, Alakanuk, Hamilton, Kotlick, St. Micheal's, Scammon Bay, Sheldon's Point and Stebbins.[4] Community members considered the

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[1] Emmonak - Station Information, Bureau of Indian Affairs. ND.

[2] School Reports, School Year 1971 - 72. Total Enrollment in Bureau of Indian Affairs Schools.

[3] See Age-Sex Population Pyramid - Emmonak, Appendix, Page XII.

[4] According to a conversation between Mr. Axel Johnson, former President of the Village Council and Mr. Frank Berry.

question of housing these students in dormitories or in foster boarding homes. The votes for and against dormitory accomodations were very close. However, the concept of foster boarding homes was unanimously supported. A possible alternative for housing which was not discussed in Emmonak but which should be considered is the creation of cottages for groups of five to ten students with houseparents who are residents of Emmonak.

Enrollments of students in grades four through eight in villages surrounding Emmonak were:

Alakanuk - 38	Kotlik - 26	St. Micheals - 27
Scammon Bay - 29	Sheldon's Pt. - 15	Stebbins - 28[1]

Other communities in the area do not have elementary schools. The total number of potential students, over the next four years, from outside Emmonak, is 163. Added to the Emmonak total of 62, the number reaches 225. If only one-half of the students in Emmonak and surrounding areas decide to attend the Emmonak High School, it would have 112 students within four years.

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[1] S.O.S. and B.I.A. enrollments. Op. cit.

RECOMMENDATIONS

Criteria for small rural high schools in Alaska have been established by the Division of Regional Schools and Boarding Home Program. According to this directive:

> The school plant should include opportunities for basic subjects, music, homemaking, practical arts, physical education, pre-vocational opportunities, and be contructed so that additional career opportunities may be provided.[1]

The facility recommended herein will meet these requirements and will also, hopefully, provide for the types of programs requested by parents in the three villages.

The rural high school must consist of an academic learning area, a multipurpose room, a home economics center which includes the lunch kitchen, and an industrial arts shop. Following are recommendations for the design of each of these areas. The section concludes with suggested uses for all areas, not immediately apparent but relevant to community needs and wishes.

Academic Learning Area:

Activity Areas	Properties
Instructional Media Center	Space for cabinets, shelves and closets, etc. for display and storage of instructional materials and equipment. Allow for tremendous growth. Library area with space for magazines also. Space for 20 students at study carrels, 25 at tables.[2] Plenty of electrical outlets for audio-

[1]See Appendix, page XIII.

[2]According to Mr. Thomas Overman, Principal of an open space school in Seldovia, 50% of students may be using the IMC at one time.

	visual equipment. IMC has first priority in allotment of total space in academic learning area.
Laboratory Science Center	Two or more sinks and drains to withstand corrosive acids installed. Built-in storage cabinets (preferable glassed doors) for science equipment. Space for four or more moveable laboratory tables with gas jets, two or more all-purpose tables, and a portable fume hood. Blackboards and bulletin board.
Closed Classroom	Standard classroom large enough for 20 desks. Suitable for teacher who needs time to adjust to open school concept. Can be darkened for projection. Use as lecture room.
Clerical Learning Room	Small, enclosed. Windows to prevent claustrophobia. Space for five typing tables, three desks for other machines. Storage for clerical material built in. Blackboard.
Music Room	Small, sound-proofed room for instrumental lessons. Huge shelves for storage of instruments. Space for six chairs and music stands or piano and two chairs. Window.
Seminar Areas (1-3)	Space for 5 to 15 students around tables or at desks.
Cloakroom	Space for 100 or more coats and outer footwear.
Student Storage	Space for 100 storage units. Avoid traditional awkward lockers. Boxes 2' x 1-1/2' may be more efficient--with doors.

Teachers Storage — Ten or more standard teacher closets, built-in at various places around school.

Home Economics Facilities:

Members of all communities expressed an interest in the school's offering a home economics program. The program would include many of the activities common in home economics coursework in larger high schools, but would be adapted to village needs. Miss Ann L. Walsh, Head of the Home Economics Department at the University of Alaska, Fairbanks, was consulted about the program. Miss Walsh grew up in Nome so her recommendations were considered doubly valuable.

The home economics program consists of coursework in three major areas--foods and nutrition, clothing, and child care. Since the facilities for food preparation will be most involved, they are described first.

A usual kitchen unit for a home economics program consists of the grouping of a stove, refrigerator, sink, cupboards and counter space, and a table on which the meals are served. This unit approximates as nearly as possible a typical home setting. In a village the stove should use oil fuel because most of the stoves in the homes do. Electrification is new in most village homes and few people have electric ranges. The refrigerator may be small. One side of the kitchen unit should open on a larger area where chairs could be set up for people watching a demonstration in the kitchen. Possibly the kitchen could adjoin the sewing area which will be supplied with at least two large, moveable tables on which fabrics and skins can be cut. The small kitchen unit need not be near the multipurpose room, but it should be situated adjacent to the large school lunch kitchen.

Assuming that the high school provides hot lunches, a fair sized

kitchen is necessary. In order to prepare 60-100 lunches, Miss Walsh suggested the kitchen be equipped as follows: a small commercial range should contain a large oven and be built with a continuous heating surface over part of the range top; there should be a large refrigerator and a huge freezer for quantities of food shipped in or prepared ahead of time; a triple sink (deep sides) will be needed in order to meet present or future health requirements; a great deal of storage space is necessary for dishes and bulk quantities of food. Of course, counter space for preparation of foods must be ample. The kitchen must open into the multipurpose room which will serve as the cafeteria. A serving area, equipped with hot water warming wells (with drains, please) could be situated at one end of the multipurpose room, and tables could pull out of the walls in the area. An opening in the wall between the multipurpose room and the kitchen probably provides for the quickest removal of dirty dishes from the dining area. This entire kitchen and serving area could be used for village gatherings when the school becomes a community center.

The sewing area which is adjacent to the small kitchen should be equipped with three to five heavy duty serving machines in individual moveable cabinets. Miss Walsh suggests that Bernina (Swiss-made machines) or Viking (Swedish) sewing machines are proving strong under constant use in Anchorage high schools. The machines need not be the very expensive models but need have only forward, backward and zig-zag stitches. At least two large tables are necessary for cutting fabrics and skins. Closets with sliding drawers and shelves must be provided for storage of clothing and supplies.

Child care and family living are parts of most home economics curricula. Discussion may take place around the tables in the sewing area but preferable to this would be conversation in an informal, lounging

area. A cluster of easy chairs, a couch and a coffee table should be set up somewhere within the open space of the building. This area could be used for certain home economics classes and for discussions in other coursework. This cluster need not be adjacent to the other home economics units.

In the future, preschool centers may be built and funded by the state. This center might be connected to the high school near the home economics area and the larger kitchen. Study and care of preschool children might become a part of home economics coursework. Architects may wish to design the building allowing for such an addition.

Multipurpose Room:

A multipurpose room in a small rural high school will serve the obvious functions: it will be the gymnasium, dining room and auditorium. But it can also serve as a community meeting room for indoor sports events, village development planning meetings, health clinics, Cooperative Extension workshops and social affairs.

To meet all of these needs the multipurpose room must be large. Mr. John C. Gilmore, Director of Physical Education at the University of Alaska, Fairbanks specified the dimensions of an official basketball court, 60' x 90'. This is 5,400 square feet, and does not include space for bleachers and locker rooms. Considering the cost of building in rural Alaskan villages, designation of over 6,000 square feet for a gymnasium is impractical. According to Mr. Gilmore a physical education program could be implemented in an area 40' x 60', exclusive of bleachers and locker rooms. This would mean that students would have to play half court basketball. But other sports, such as volleyball, badminton, wrestling, tumbling and gymnastics could be properly accommodated. The only equipment which need be built in are the basketball baskets

which should be suspended from the ceiling so as not to obstruct movement in the room.

Boys' and girls' lavatories for the entire school building may be a part of locker room facilities. Lavatories should be accessible from the open learning area and from the multipurpose room. At least two showers must be provided in each locker room.

The multipurpose room will be used as a cafeteria each afternoon. Necessary provisions for this use are described in the section on home economics.

When the multipurpose room is used as a meeting room, the problem of preserving the floor arises. The floor can be covered with canvas if the meeting is of a business nature. However, if there is to be a dance, then a canvas covering won't work. The possibility of moveable floor panels might be explored.

Bleachers will be necessary for school and community sports events.

In Emmonak and Mountain Village there are no health clinics or permanent medical professionals. Visiting doctors and nurses must see patients in tiny health rooms in the elementary schools. A health room of not less than 150 square feet is recommended in the high schools. It will be necessary when 50 or more teenagers attend school. Girls especially may need a private place to lie down.

The health room should open into the multipurpose room. Then it can be used as a clinic by visiting medical personnel who wish to examine a number of people. Mothers will have a place to sit while children play in the gymnasium.

<u>The Industrial Arts Shop</u>:

The industrial arts shop must be acoustically as separate from the

rest of the school as possible. The noise level within it may be very high when students are revving small engines which they have just repaired or operating power saws or drills.

Detailed building specifications for an industrial arts shop were requested from the Department of Vocational and Adult Education in Juneau. At present there is no specialist available. However, on December 1, Mr. Clark Damon will fill the position of Trade and Industrial Supervisor. The architects are referred to Mr. Damon for specifications on the industrial arts shop.

Several villagers have expressed an interest in learning how to tan animal skins. Because of the acids used in the process, it is recommended that a place for this training be planned in the industrial arts shop. Mr. William B. Scarborough, Marketing Specialist with the University of Alaska Cooperative Extension Service, has considered the question of school facilities for tanning of skins. He suggests that a few 4' x 8' panels of plywood be affixed to the wall for stretching the skins. These sheets can be replaced as they become unusable. A floor drain made of corrosion resistant metals would be helpful when heavy buckets of tanning solution must be dumped. Mr. Scarborough conducts demonstrations on tanning and craft production in villages and says he will be happy to see multi-purpose rooms in the high school for heavily attended workshops.

Why An Open Space School:

The concepts of the open classroom and the open school have captured the attention of educators nationwide. Open space is heralded as dynamic, flexible, and unrestrictive; it encourages communication, cooperation, responsibility, the positive human growth of all members of the school community. Literally hundreds of benefits are said to accrue from the open school setting.

Most assessments are subjective. Indeed, proponents of open space schools exclaim that, such schools must be experienced to be appreciated. There are few examples of open space arrangement in schools in Alaska, but the concept may become increasingly popular. The community of Seldovia, on the Kenai Peninsula, is experimenting with a school program using "Learning Packages for Rural Schools." "The new school is built around an Instructional Materials Center and has no interior doors." According to Seldovia Principal, Thomas Overman, "The program has been well received by our students and teachers. This is due primarily to the length of time involved in planning and the gradual phasing-in of the new system."[1]

The American Association of School Administrators has published a report entitled open space schools in which it has brought together "some recent examples of what the Commission believes to be noteworthy open space schools. The Commission, further, has set down its thoughts, drawn from its own experiences with the planning, design and construction of open space schools."[2] Described and pictured are dozens of large,

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[1]Alaska Department of Education, "Seldovia Students Study Independently with Learning Packages." News release. (Juneau: Office of Public Information and Publications, October 13, 1972).

[2]American Association of School Administrators, open space schools, (Washington, D. C.: AASA, 1971), pg. 3.

complex buildings housing student bodies numbering in the hundreds. Examples of designs and equipment which have proven effective and ineffective for educational purposes are included.

Another organization directly concerned with school buildings, the Educational Facilities Laboratories, has compiled a similar report, High School: The Process and the Place. Its recommendations and cautions for building an open space school are specific. We have made use of several sections of these publications in formulating recommendations.

Design of an open space high school is recommended not because of either writer's belief in the philosophies behind the approach or whole-hearted acceptance of the contentions made in its behalf, but because the open space approach seems to offer the best solution to the problem of meeting the educational needs of 60 to 120 students who will be studying five to fifty subjects at several levels. Given the limited amount of floor space which results from the exorbitant cost of building in remote areas, and assuming that much of this space will be used for a multipurpose room, a home economics area, lunch kitchen and industrial arts shop, it would seem inefficient to divide the remaining area into separate subject rooms. Instead open space should be designed so as to accommodate different activities associated with academic subjects.

High School: The Process and the Place describes the essence of open space school design as "perfectly filled space." No architect will fill space perfectly but recommendations are made to help planners in that direction. See Appendix pages XVI-XX.

Open space schools includes an important section entitled, "how is it built." In a section on "the acoustical environment" the authors specify the use of carpeting to reduce the noise level.

In a telephone conversation to the authors, Mr. Thomas Overman

discussed the open space school in Seldovia. He stated that the noise level is indeed low in the academic learning areas of the school and that carpeting is in part responsible for reducing reverberations. He said that school planners were concerned that it would be difficult to clean carpets but that in fact the carpets look cleaner than a tile floor does. He pointed out that preparations for the open space school took three years. Their new building facilitates the program, but most important is the attitude of the teaching staff.

The teaching staff of a rural high school will be faced with unique problems and opportunities. Attitudes of teachers and administrators will be more crucial in determining the success of the programs than will the design of the building. An open building facilitates an individualized approach to education but it does not eliminate the possibility of teachers using traditional methods of instruction. It is <u>essential</u> that teachers assigned to these rural high schools be given time and assistance prior to the opening of school in September to acquaint themselves with materials available in the school and to develop rapport among themselves. If at all possible the principal or head teacher should have some experience with individualized education programming. Ideally this person should be involved in selecting materials and equipment for the building. Mr. Overman recommended the Monitor Company (Olsen and Upton Company, Anchorage distributors) as carrying a good line of furniture for open space schools. Equipment lists must be well researched.

Programs for rural high schools may be developed as students and parents express interests in learning about subjects not included in state curriculum guides. For instance, one of the writers wondered what sorts of biological and chemical studies could be made on river water, since the river plays such an important part in the lives of village

people. Dr. Vera A. Alexander, professor at the Institute of Marine Science, Fairbanks wrote up a list of river related studies (See Appendix, page XXI) which she feels students could do with the equipment mentioned. A biology or chemistry teacher might have to do some reading in order to supervise the more difficult experiments.

In all three villages interest in courses on Native culture was high. This topic and the desire for a multipurpose room were of primary importance to the people.

It is interesting to note that the various courses requested were similar from one village to another although there were a few minor variations. Examples of courses requested:

1. Eskimo language--Yupik (IMC, seminar, or lecture rooms)
2. Eskimo home ec. (Small home economics kitchen, large lunch kitchen (canning) and industrial arts shop (tanning)
3. Eskimo arts and crafts (Industrial arts area)
4. Local history (IMC, seminar or lecture areas)
5. Land claims and Native corporations (IMC, seminar)
6. Eskimo dance (Multipurpose room, seminar rooms)
7. Dog sled construction and racing (Industrial arts, outdoors)
8. Ice fishing (Lecture or seminar rooms, outdoors)
9. Hunting precautions (Lecture or seminar and outdoors)

It should be noted that any Native culture program is not limited to these nine areas; it can be expanded or contracted to include what is relevant to the time, space, and talent available. Recommended teaching areas are enclosed in parentheses after each subject.

Whether or not such subjects are included in the regular high school course schedule or added as interest courses to supplement a student's credit hours is not important. The critical point is that facilities, equipment, materials, and funds must be made available for instruction in Native culture.

In the March, 1972 issue of The Northian, recommendations were made by the Yukon Native Brotherhood for "The Education of Yukon Indians."

Recommendation Four states, "That Education Programs be Changed to Allow for Revival and Re-establishment of Indian Languages and for a True Picture of Indian History, Culture, and Contributions to the Modern World." The same recommendations might be made for Eskimo high schools. Project Necessities offers a fine example of a high school course in social science which can help Native students to consider their conflicts with the dominant culture. It was developed by a group of BIA and public school teachers.

The educational program need not be limited to high school students or to certain periods of the day, but can be offered evenings, after "normal" school hours to members of the community. Such an approach offers a wonderful opportunity for uniting and involving the school and the community together.

The instructors for many of the Native culture courses can and should be members of the village. A professional teacher is not required for such activities.

Village people expressed interest in other coursework. Some of these topics are listed below and should be considered by the architect in designing the building, the State of Alaska in providing teaching materials and equipment, and the high school teachers and administrators developing the curriculum.

1. small engine repair
2. carpentry
3. plumbing
4. accounting/bookkeeping
5. electricity
6. drafting
7. home appliance repair
8. photography/journalism (school paper)
9. public speaking

Short courses could focus on everyday applications of skills. These could provide a basis for determining interest and aptitude levels of students

and adults for further career placement.

Informational courses requested by village people were:—

1. first aid
2. income tax preparation
3. sports and community recreation programs
4. drug abuse, alcohol, and smoking
5. local government-laws and procedures
6. counseling programs--training and application

Some of these topics can be covered in one seminar while others would be discussed for a few weeks.

Conclusion:

A successful school program depends upon community interest and participation. The village people realize the importance of education for their children but they wish to maintain the family structure. Local high schools offer students and their parents an educational option compatible with family life.

The entire community may involve itself in school functions and conversely the school may serve community needs. This interaction will not take place, however, simply because the school building is designed to facilitate such activities. Programs which are initiated in the high schools must appeal to the village people: they must be seen as valuable and enjoyable. Some of the courses which have been requested by the people have been noted. Teachers and administrators will discover other interests.

The open space facility can provide for a great variety of learning experiences. However, optimal utilization of such a facility requires planning. Work should begin immediately on the development of appropriate curricula and materials and the purchase of equipment.

BIBLIOGRAPHY

Books:

American Association of School Administrators, open space schools. (Washington, D. C.: AASA, 1971) 112 pp.

Canter, David V., ed., Architectural psychology - Proceedings of the conference held at Dalandhui. (London: RIBA Publications Limited, 1970) 92 pp.

Fuchs, Estelle and Havighurst, Robert J., To Live on this Earth - American Indian Education. (Garden City, New York: Doubleday & Company, Inc. 1972) 390 pp.

Orth, Donald J., Dictionary of Alaska Place Names. (Washington, D. C.: United States Government Printing Office, 1971)

Propst, Robert and Weinstock, Ruth, High School: The Process and the Place. (New York: Educational Facilities Laboratories, 1972) 120 pp.

Stevens, Mary Otis and McNulty, Thomas F., World of Variation. (New York: George Braziller, Inc., 1970) 157 pp.

Voight, Ralph Claude, Invitation to Learning - The Learning Center Handbook. (Washington, D. C.: Acropolis Books, Ltd., 1971) 150 pp.

Journals:

The Northian: Journal of the Society for Indian and Northern Education. Volume 8, No. 4.

Papers:

Alaska Department of Education, "Small Secondary Schools - Administrative Manual, 1972." (Juneau: Alaska Department of Education) 33 pp.

Alaska State Board of Education, "the Big picture on small schools." (Juneau: Office of Public Information and Publications, 1972) 18 pp.

Department of Education, "Individualizing Secondary Education in Alaska." Mimeo. (Juneau: Division of Instructional Services, 1971)

Darnell, Frank, "The Physical School Facilities of Alaska's Rural School System." An unpublished thesis. University of Alaska, 1972.

Franzen, Carl and Partridge, Arthur R., "Educational Specifications for Rural Alaskan Schools." (Stanford, California: The School Planning Laboratory, 1964) 89 pp.

King, Rowland R., "Guidelines for Establishing or Reorganizing a Very Small, Individualized - Secondary School in an Isolated Community." An abstract. (Arizona State University, 1972) 16 pp.

Kleinfeld, Judith, "Alaska's Urban Boarding Home Program." (College: Institute of Social, Economic and Government Research, 1972) 98 pp.

Institute for Development of Educational Activities, Inc., "Toward More Effective Involvement of the Community in the School." (IDEA Occasional Paper, 1972) 24 pp.

Orvik, James M., "Teacher Survival in an Extreme Environment." (Fairbanks: University of Alaska, 1970) 36 pp.

"Project Necessities: Secondary Program for High Potential Indian Students." Phase III, Volume VI.

APPENDIX

STATE LAWS AND REGULATIONS RELEVANT TO THESE RECOMMENDATIONS

The Compiled School Laws - State of Alaska 1968

Sec. 14.03.040. Day in session. ...the day in session in every school shall be at least four hours long, exclusive of intermissions, for the first, second and third grades and five hours, exclusive of intermissions, for all other grades.

Sec. 14.13.070. School age. ...and who is under the age of 20 and has not completed the 12th grade, is of school age.

Sec. 14.03.100. Use of school facilities. The governing body of any school district may allow the use of school facilities for any legal gathering or assemblies. The governing body shall adopt bylaws that will insure reasonable and impartial use of the facilities.

Sec. 14.17.050. Teachers' salary allotment.

Schedule of Allowable Number of Teacher Units

Secondary Schedule

Average Daily Membership	Allowable No. of Teacher Units
Under 10	1
10-25	2
16-25	3
26-40	4
41-60	5
61-80	6
81-100	7
101-300	7 Plus 1 for each 20 pupils or major fraction of 20 between 101 and 300

Special Education Schedule

Average Daily Membership	Allowable No. of Teacher Units
5-10	1
11-over	1 teacher for each 10 pupils or major fraction of 10

Sec. 14.30.070. Physical examination required. (a) The governing body of each school district shall provide for and require a physical examination of every child attending school in the district. The examination shall be made when the child enters school or, in areas where no physician resides, as soon thereafter as is practicable, and thereafter at regular intervals considered advisable by the governing body of the district.

Sec. 18.70.080. Regulations. The Department of Public Safety shall adopt rules and regulations for the purpose of protecting life and property from fire and explosion by establishing minimum standards for:

(1) Fire detection and suppression equipment

(2) Fire and life safety criteria in commercial, industrial, business, institutional and other public buildings, and buildings used for residential purposes containing four or more dwelling units.

Sec. 18.70.110. School buildings and dormitories. The governing body of each school district as set out in AS 14.12.010, and each organization or individual awarded custody of children by a court shall provide at least one external stairway as a fire escape on each school building, and on each building or dormitory which houses at least three children, is more than one story in height, and contains only one stairway to the ground floor.

Sec. 35.10.015. Architectural barrier regulations. The Department *of Public Works is responsible for preparing and promulgating regulations* governing the construction of public buildings and facilities by and for the state and its political subdivisions to insure that the public buildings are accessible to and usable by, the physically handicapped. The regulations of the department shall conform as far as it is feasible to the publication entitled "American Standard Specifications for Making Buildings and Facilities Accessible to and Usable by the Physically-Handicapped" or any other amendments to this publication as approved by the American Standard Association, Incorporated, under the sponsorship of the National Society for Crippled Children And Adults and the President's Committee on Employment of the Physically Handicapped.

Rules and Regulations - Alaska Department of Education 1970

4AAC 06.030 School Construction. (a) All plans for new schools, additions and major rehabilitation must be approved by the commissioner before bids are invited. (b) The commissioner's approval is effective for two years unless a contract is awarded within that time. (c) The chief school administrator shall report the total cost of a project and means of financing to the commissioner.

4AAC 12.020. Regular Certificate (Type A). (a) The regular certificate, valid for five years, shall be issued to an applicant who

(1) has completed a teacher education program through the bachelor's degree approved by the board and is recommended by the preparing institution; or

(2) presents a comparable valid certificate issued by another state.

1969 Administative Manual for Secondary Schools

Minimum basic requirements for graduation are:

Language Arts	3 units
Social Studies	2-1/2 units
P.E.	1 unit
Science and Math	3 units
Electives	6-1/2 units
TOTAL	16 units

A unit is defined as the credit allowed for the satisfactory completion of a course that meets a minimum of 42 minutes multiplied by the number of days in session prescribed by the Legislature of the State of Alaska. Permission to deviate from this standard must be obtained in writing from the Commissioner of Education.

INSTRUCTIONAL MATERIALS CENTERS

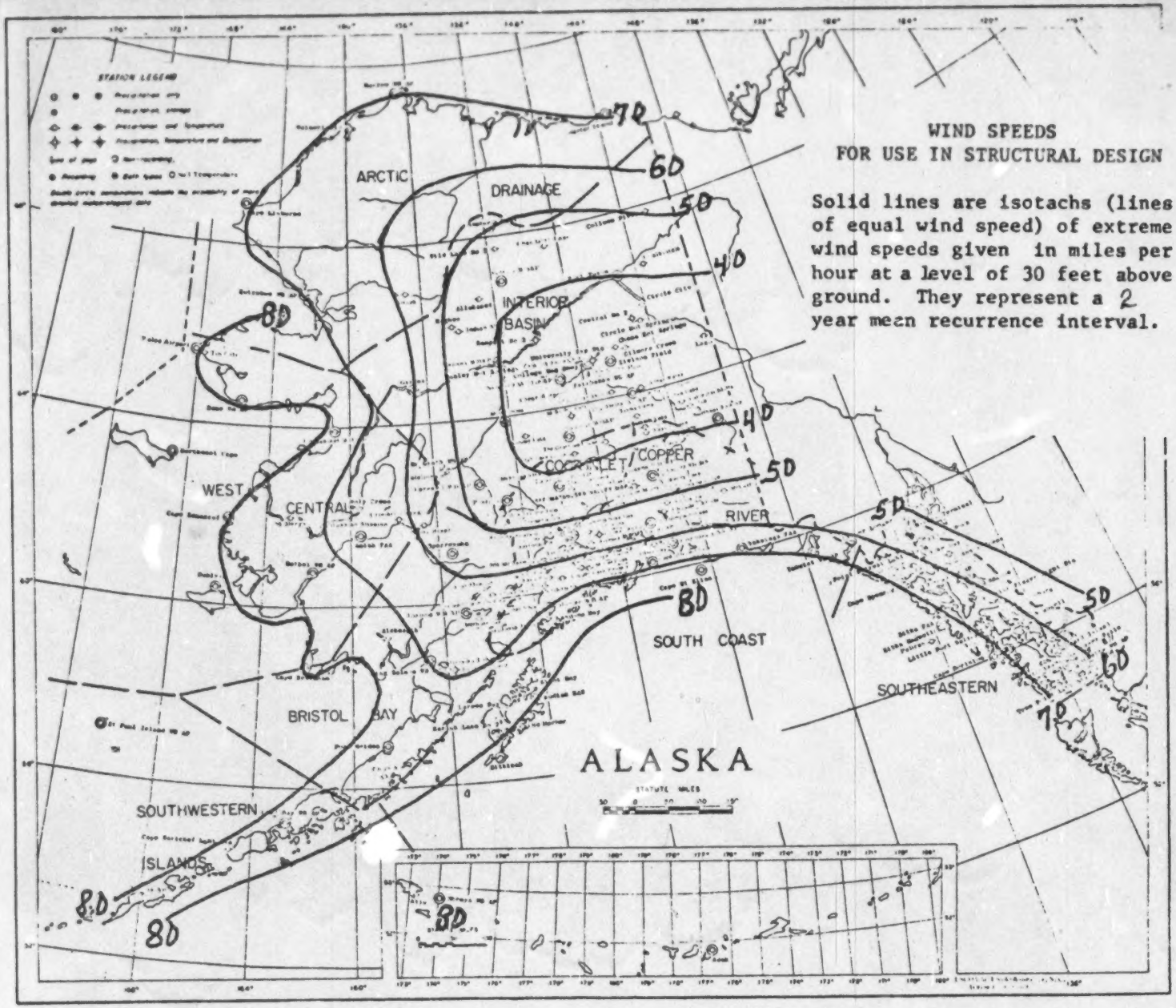
The explosion of knowledge forces us to recognize that of the subject-matter content current today, some will be irrelevant in three years, and much of it in ten years. Our recourse is to lay greater stress upon helping students learn how to learn. The I.M.C. (or the library) is the principal instrument by which this learning becomes possible. The ability to retrieve data when needed is the key to self-initiated learning. Only self-initiated learning shows promise of becoming life-long learning.

Effective instructional materials centers are not the product of theory and intent, but of practical planning and implementation.

The best-staffed and best-stocked resource centers will bring about little improvement in instruction if materials are not used by students and teachers in their everyday classroom activities.

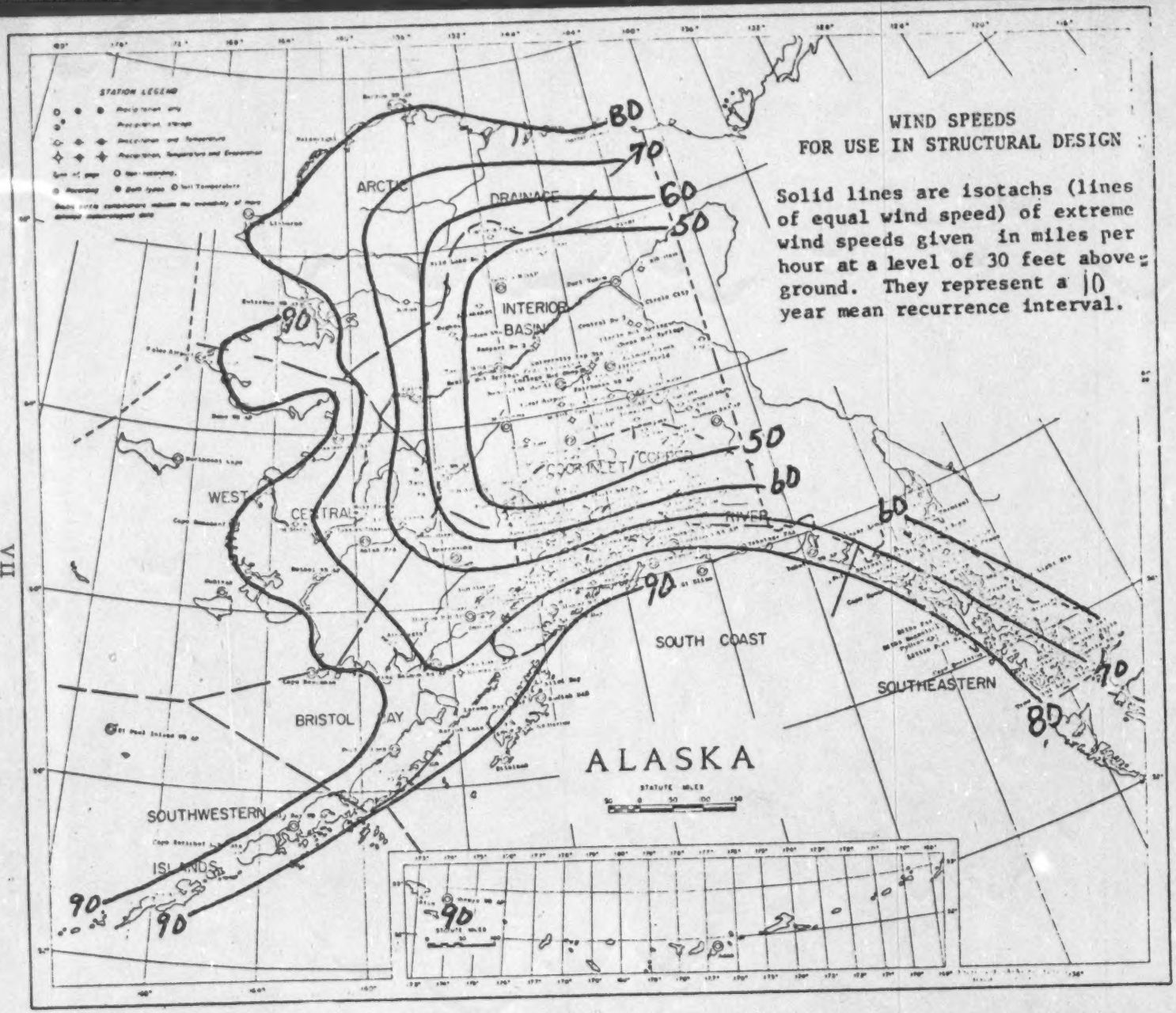
In order that use of such resources be worked into daily lesson plans, teachers should be continually informed of what is available to them. Often instruction in complete utilization of equipment and materials is necessary. These two goals can be accomplished through in-service training sessions involving the resource center staff and media consultants, as well as teachers; through released time for teachers specifically to visit the center and to consult with the center personnel; through bulletins listing current and new materials available; and through many other programs which the principal and his staff may devise.

If instructional resource materials are not closely correlated with subjects offered, teachers may find that their use is more of a hinderance than an instructional aid. One method of eliminating irrelevant resource materials, and to keep teachers informed, is to involve the teaching staff in the selection of materials. The imaginative principal may think of many other such methods.



WIND SPEEDS
FOR USE IN STRUCTURAL DESIGN

Solid lines are isotachs (lines of equal wind speed) of extreme wind speeds given in miles per hour at a level of 30 feet above ground. They represent a 2 year mean recurrence interval.



WIND SPEEDS FOR USE IN STRUCTURAL DESIGN

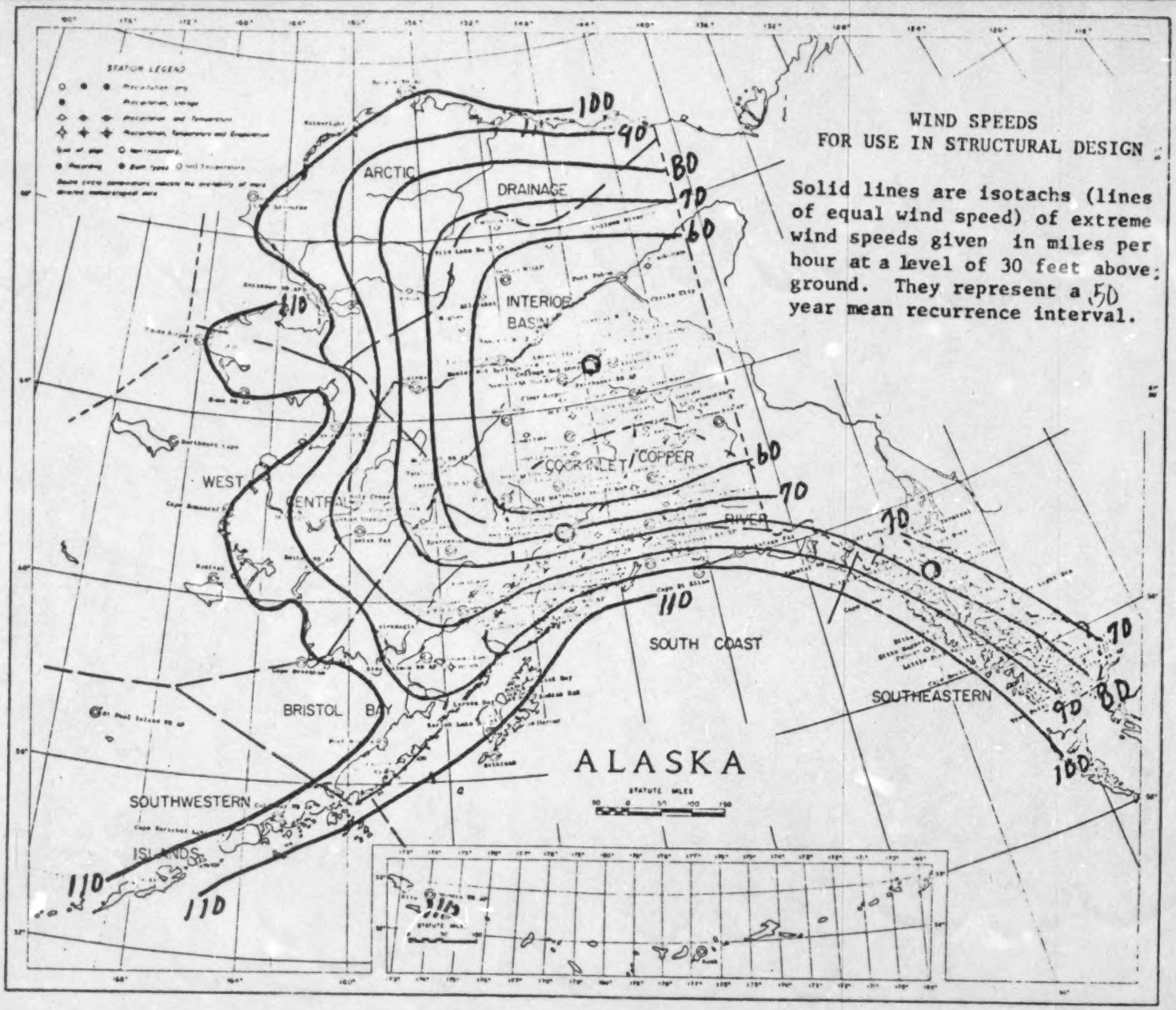
Solid lines are isotachs (lines of equal wind speed) of extreme wind speeds given in miles per hour at a level of 30 feet above ground. They represent a 10 year mean recurrence interval.

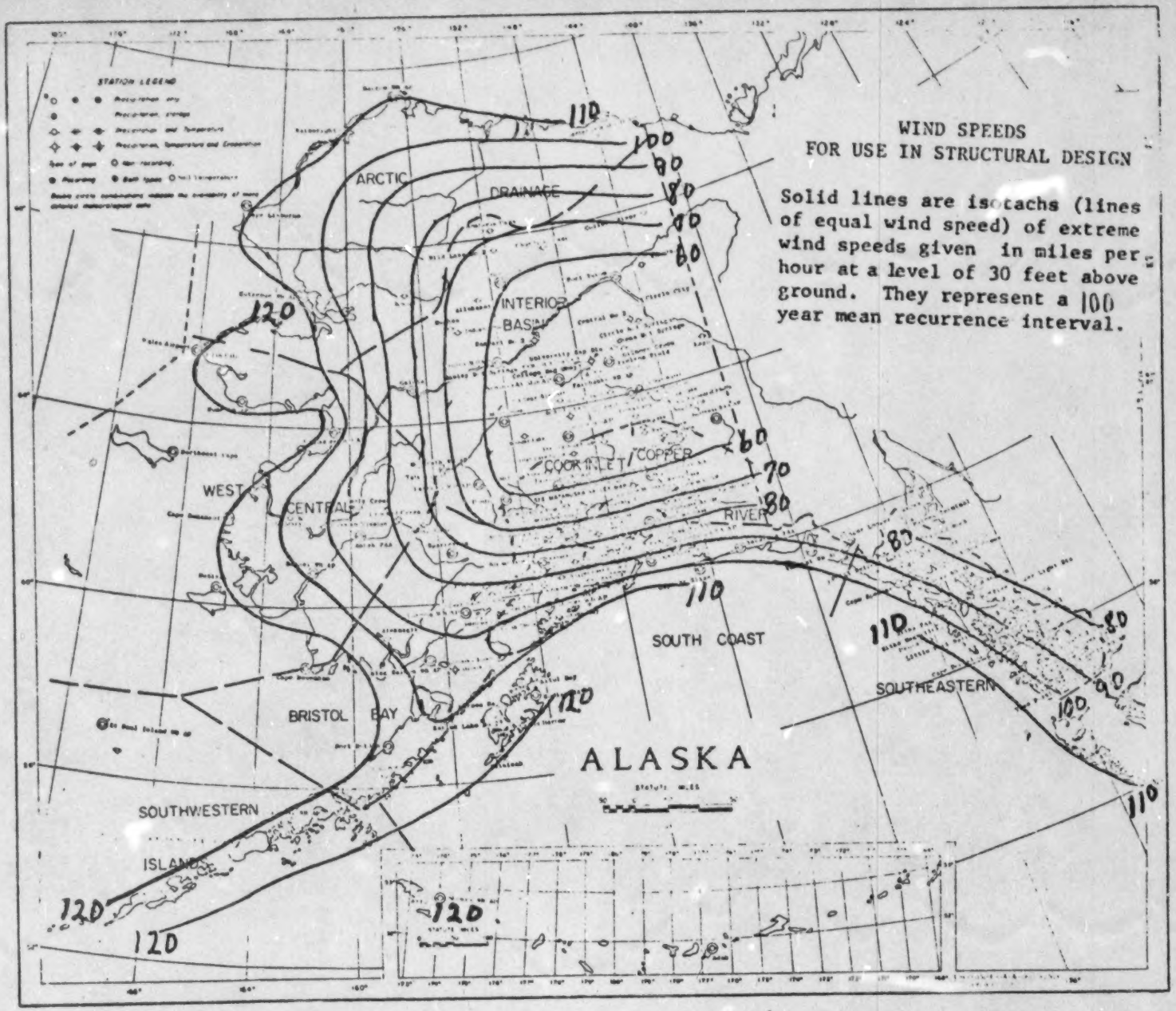
WIND SPEEDS
FOR USE IN STRUCTURAL DESIGN
Solid lines are isotachs (lines of equal wind speed) of extreme wind speeds given in miles per hour at a level of 30 feet above ground. They represent a 25 year mean recurrence interval.
ARCTIC
DRAINAGE
INTERIOR
BASIN
WEST
CENTRAL
COOK INLET
COPPER
RIVER
SOUTH COAST
SOUTHEASTERN
BRISTOL BAY
SOUTHWESTERN
ALASKA
90
80
70
60
100

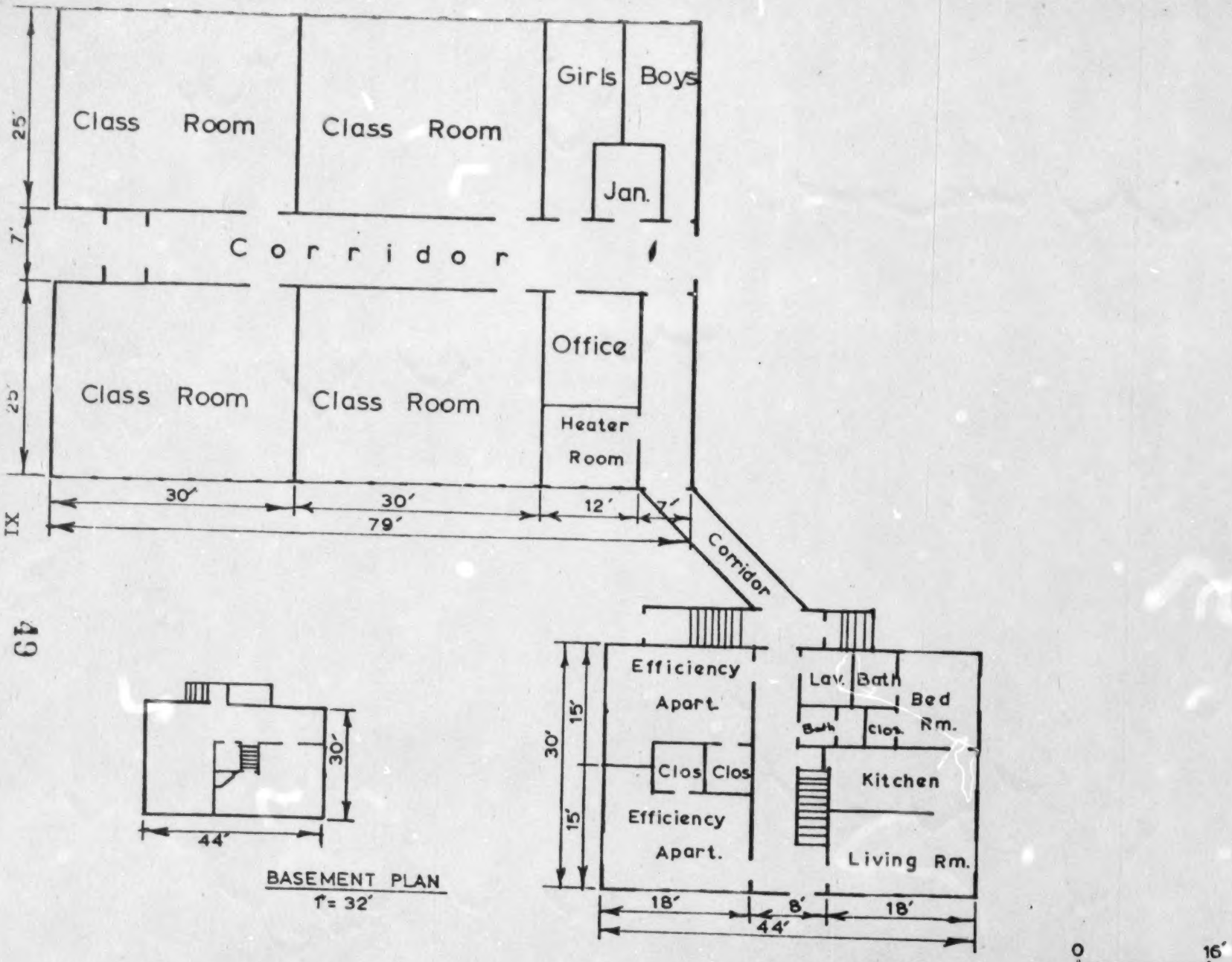
VIII

46

25


WIND SPEEDS
FOR USE IN STRUCTURAL DESIGN
Solid lines are isotachs (lines of equal wind speed) of extreme wind speeds given in miles per hour at a level of 30 feet above ground. They represent a 50 year mean recurrence interval.
ARCTIC
DRAINAGE
INTERIOR
BASIN
WEST
CENTRAL
COOK INLET/COPPER
RIVER
SOUTH COAST
SOUTHEASTERN
BRISTOL BAY
SOUTHWESTERN
ISLANDS
ALASKA
STATUTE MILES
100
90
80
70
60
110


WIND SPEEDS
FOR USE IN STRUCTURAL DESIGN
Solid lines are isotachs (lines of equal wind speed) of extreme wind speeds given in miles per hour at a level of 30 feet above ground. They represent a 100 year mean recurrence interval.
ARCTIC
DRAINAGE
INTERIOR
BASIN
WEST
CENTRAL
COOK INLET/COPPER
RIVER
SOUTH COAST
SOUTHEASTERN
BRISTOL BAY
SOUTHWESTERN
ISLANDS
ALASKA
STATUTE MILES
110
100
90
80
70
60
120



BASEMENT PLAN
1"= 32'

AGE-SEX POPULATION PYRAMID

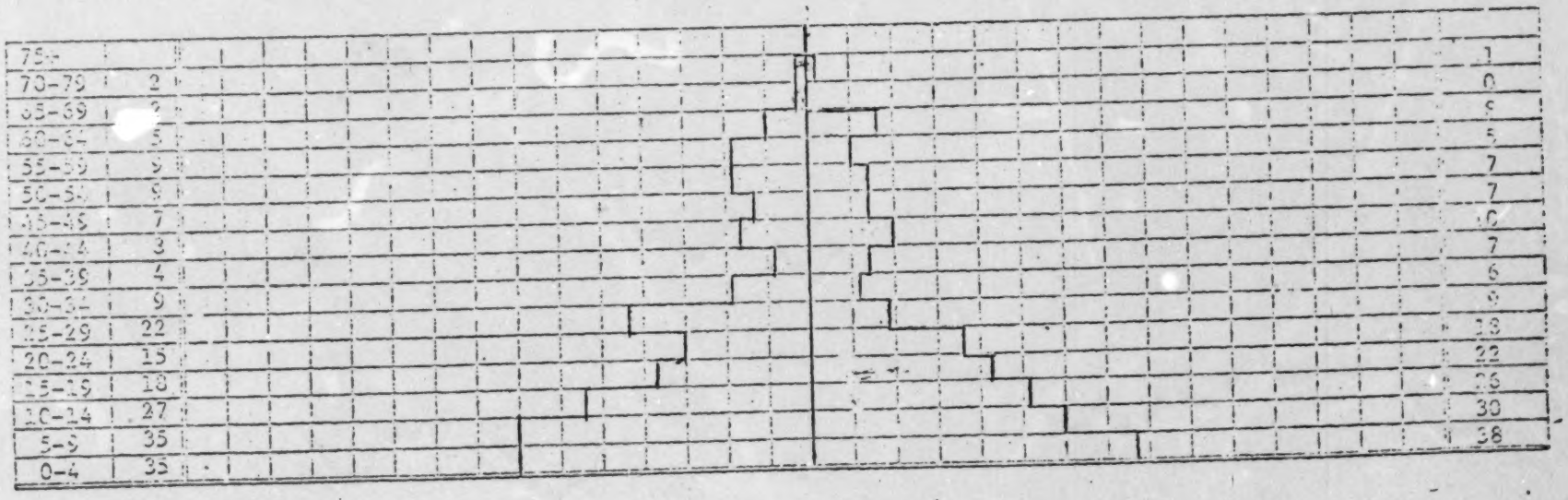
EMMONAK

Scale: 1/4" = 5 people

Population: 396 (1969)

Males: 207

Females: 189



STATE OF ALASKA
DEPARTMENT OF EDUCATION
Division of Regional Schools and Boarding Home
Program
Pouch F
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CRITERIA FOR AREA SECONDARY SCHOOLS

An area secondary school is a high school which serves pupils residing outside of the normal limits of the immediate attendance area. Pupils are usually drawn from peripheral elementary schools within a 100 mile radius. Those living beyond commuting distance would be boarded in approved homes or school-operated dormitory facilities.

The following criteria should be observed in establishing area secondary schools:

1. The minimum enrollment of 116 pupils in grades 7-12 is recommended. There must be ample evidence that the school will experience continued growth following establishment.

2. Opportunity should be available to students in the 11th and 12th grades to attend a regional high school if the program offered at the area school is not adequate to meet the educational needs.

3. The faculty should include at least eight full-time teachers and a chief school administrator for the total program.

4. The school plant should include opportunities for basic subjects, music, homemaking, practical arts, physical education, pre-vocational opportunities, and be constructed so that additional classrooms and additional career opportunities may be provided.

5. Prior to construction of each area secondary school, studies should be made to determine the feasibility of providing dormitories, boarding homes, or cottage-type boarding facilities for students from the peripheral area elementary schools.

6. Area high schools should be equipped, staffed, and supplied to meet Northwest Association accreditation standards.

7. A comprehensive community and area survey should be part of the preliminary considerations for selecting area secondary centers.

ews release

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FOR IMMEDIATE RELEASE
October 13, 1972

SELDOVIA STUDENTS STUDY INDEPENDENTLY WITH LEARNING PACKAGES

The community of Seldovia embarked on a new and different concept in Alaska education with dedication of their brand new school plant last week, Commissioner of Education Marshall L. nd announced today. The school program revolves around a project called "Learning Packages for ral Schools," and the net result could be an entirely new approach for Alaska's rural schools. e project is supported with federal funds under Title III of the Elementary and Secondary Edtion Act.

The Seldovia school has a teaching staff of 10 and 130 students in kindergarten through grade , all involved in the processes of educational change. The new school is built around an Instructnal Materials Center and has no interior doors. Under the Seldovia project, students work indendently and teachers devote substantial time to guidance and counseling. A contract between the cher and each student outlines what will be accomplished in a given period of time.

Learning packages have been designed to supplement self-learning and to aid students in independnt study. The Seldovia plan emphasizes self-paced and individualized instruction wherever possible, d every course in grades 7-12 will be divided into 20 levels. When a student completes one level will be able to move on to the next.

Seldovia students and teachers are learning that their new curriculum offers them a variety of ucational opportunities. Many students are taking advantage of audio-visual assistance; those in des 7-12 will be spending approximately 40 percent of their time in the IMC conducting individua dies.

Seldovia Principal Thomas Overman is extremely optimistic about the results. He said, "The ogram has been well received and accepted by our students and teachers. This is due primarily the length of time involved in planning and the gradual phasing-in of the new system".

Planning for the instructional program began in 1969. Five in-service training sessions were conted during the 1971-72 school year. Time was alloted for the development of objectives at each rkshop and the writing of a large number of individual student learning packages, specifically in areas of math, science, social studies, and language arts.

The new program came about as the result of a needs assessment in 1969 which involved the entire community. The assessment indicated that the major needs were "continuity in the educational program and wider curriculum offerings . . . the program to meet these needs would be a self-pacing, individualized program where as few as one student could take a class."

The cost of the three-year Title III funding will be less than $100,000, and the community has agreed to continue it after federal funding expires in Fiscal Year 73.

Dr. Robert S. Hage, Chairman of Alaska's Title III, ESEA, Advisory Council and one of the consultants to the project, stated, "I suspect that the Seldovia project might, in the near future, serve as a model for rural schools in Alaska."

Interest in the project is such that the Title III Advisory Council will meet in Seldovia on November 14-15 to conduct Council business and a first-hand visit to the new school with the new look in education.

* * * * *

(for additional education feature information on the Seldovia Title III project, contact Vern Metcalfe, Dissemination Officer, Alaska Department of Education, Pouch F, Juneau, or Thomas Overman, Seldovia School Principal, P.O. Box 171, Seldovia Alaska.)

1.1 Perfectly Filled Space

Because school costs have always been an issue, architects and administrators have always tried to "fill space perfectly": that is, they define some hypothetically correct number of people who presumably always will be present to fill a particular quantity of square feet. But shifting processes and group sizes that are never predictable or uniform always frustrate this illusory objective—especially when we try to meet it by methodical spatial definitions; i.e., classroom boxes.

Nonetheless, a concept of perfectly filled space does remain important because it deals with a basic human inclination. *People in a space always seek the right fit.* We are all familiar with the tension felt in an overcrowded room or the eeriness of being alone in a gymnasium. Such maladjustments cause persistent discomfort. In turn, this intrudes into the work at hand by draining energy into an unresolvable search for "the right feeling."

Reacting to this, many architects and educators turned to open school interiors. But with the lack of refinement that often accompanies a radical turnaround, many substituted large seas of undefined space for the boxes. In so doing, they exchanged one set of problems for another.

Large expanses without landmarks, human scale reference points, or definitions of territorial edges, are exceedingly difficult to inhabit. Teachers and students in such open interiors find themselves in a perpetual state of territorial tension. Where are we? Where do we camp? Which way do we face? How will we know where to go? Can we find this place tomorrow? Where are the deer trails? Even a playing field must have marks, definitions, and limits.

In open school interiors where the space lacks definition, it is quite natural that groups will tend to cluster near the perimeters and especially in the corners. In

this way they establish at least one side of a territorial enclave. (The teachers as the shepherds of their nomadic flocks, unconsciously choose for themselves the most comfortable spot, backs to the walls, and arrange the students with *their* backs vulnerably exposed.)

This psycho-spatial reaction subverts the dynamic interactive potential which is a major virtue of open interiors. And once again we are back to imperfectly filled space with new discomforts—and new inefficiencies as well: inordinate quantities of footage are needed to serve as spatial buffers between groups, and as much as 50 percent of the space may be uninhabitable.

How then, can we reconcile the powerful human desire for a comfortable sense of enclosure with the undeniable advantages of open space? And what is an open school space at its best? 67

o and diagram illustrate visual and auditory ob-ves within the micro- and macro-spaces. The t: consistency between what can be specifically and heard.

1.3 Visual Privacy

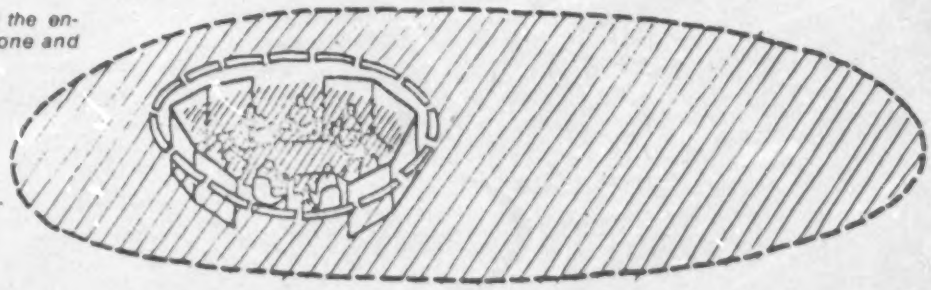
The matter of visual privacy can be solved by vertical separation at the level where the communicating elements of the body are located—the eyes, ears, face, hands. Usually, this is in a zone well above the levels of desks, chairs, and most cabinetry. Thus, screening units whose vertical dimensions cover an area the length of an up and down armstretch will provide the dividers that satisfy the visual requirements of privacy (including those of floor-sitters). A good many devices can be used for this purpose: small, rolling or skiddable panel sections, framed fabrics, display boards, tall plants, and vertically oriented storage furniture can all serve well and provide variety in the surroundings to boot.

Macro-auditory environment of the entire school, providing lively tone and masking content.

Macro-visual territory—the interior limits of the school.

Micro-auditory zone with specific message content and privacy objectives.

Micro-visual zone with specific interactive demands.



1.4 Auditory Privacy

This is governed by the same general order and constraints as those of subspaces in relation to the total open space described earlier. It requires its own version of intimacy and vista. Most important, it requires that auditory zones agree functionally with the subspaces. If there is inconsistency between them, the result is unnerving. The effect is like that of being in a closed room where we can still hear the speech of unseen outsiders and know they can clearly hear and understand us. It is a disagreement that is most insidious in that it promises with one hand and takes away with another. (A more detailed discussion of balanced sound conditioning appears on page 91.)

1.5 *The Reserve Space*

Once the micro-environments of individuals and groups are defined, what remains is the space around and outside these enclaves. This is the area for miscellaneous byways, for traffic, service, and for the storage of reserve space. (It might be noted, incidentally, that a "perfectly filled space" is one that has space in reserve The paradox here is that the negotiability of open interiors resides precisely in the reserve space which is a necessary element for creating comfortable sub-size definitions. It is the elastic used to contract or expand territorial units.)

One of the niceties of open plans is that by using a less formal definition of space, they can freely trade some of the general-use areas with traffic functions. Thus, they salvage for profitable activities the nonprofit footage normally wasted on circulation corridors. In addition to traffic and service functions, the general reserve space is valuable for the byways it provides, for its free zones used for small informal groups, individual work, and miscellaneous activities.

1.6 *Spatial Adjustments*

Adjustment of territorial units is a game of imperfect numbers. The likelihood that a perfect module jump in size or shape can be matched to a perfect increase or decrease in numbers of people is so improbable it should be abandoned by anyone who wishes to survive as a facilities manager. In real life it is random change in the numbers of people, services, and activities that is the dominating reality. And it is far more common to require adjustments of territory that are matters of inches. (For this reason, incidentally, modular systems designed to make horizontal module jumps of four or five feet are less than successful. They provide too gross an adjustment, particularly if they are confined to rectilinear increments.)

3.1 Storage—A Questionable Emphasis

A common complaint in schools is that there isn't enough space to store things, or enough of the right kind of space. And when new schools are planned, ordinarily the designers spend considerable time thinking about storage facilities.

But the emphasis is misplaced. It is use—on line use—not storage that counts. Too much storage of things reflects a dryness of process. When not much is expected to happen, things are put away to wait and wait to be used. Eventually they become abandoned. The drawer in which things get lost behind things, or the low, down-under cabinet that requires acrobatic mastery to get to, is dumb storage. Eventually such *spaces* become abandoned as well as the equipment stored in them. Storage, in fact, turns out to be one of the most static and expensive things we do, given the cost of the raw square footage it consumes, plus case work on top of that, combined with lost or forgotten equipment.

Fortunately, the solution is not complicated. It drives toward tangibility. It keeps things about, advertising their potential by making them visible. (Conversely, the dodo items, if visible, will be removed.) The answer is a light-footed, versatile service system that provides fewer closed cabinets and drawers, and more open shelving—preferably on wheels for easy movement to dispensing points. Where there is concern about the visual clutter of random collections and a wish occasionally to screen them out, the shelving can be equipped with flip-up doors that are decorative or faced to accept graphics.

Pilferage, of course, is always an issue. But it has never been successfully solved by locking things in boxes that are then locked in buildings. More often than not, this "security" attitude promotes a game of stealing from the establishment. A stronger force for security is an open environment under surveillance by everyone precisely because it is open. It self-polices, since inappropriate use, or something unfair to others, is bound to be noted. In the end, the only reasonable way to keep resources easily accessible is in an open self-regulating context

River Related Studies

These are very simple approaches that could be done with very little training and supervision:

1. Temperature measurements ..... equipment needed would be a submersible thermometer to observe variations with depth. Ordinary mercury thermometer may be of some use, but not as good.

2. Suspended load (sediment load) ..... requires a millipore filter setup with low vacuum system (aspirator will do) and a balance sensitive within the milligram range.

3. Water level ... a simple stake is all that is needed

4. Water flow rate .... some means of estimating current speed and volume.

5. Biological observations could include waterfowl census. No equipment needed except binoculars and field guide.

6. Fish observations with nets.

On a more sophisticated level you could consider the following:

1. Dissolved oxygen .... the Winkler method would be a possibility. You would need a place to titrate with burettes, some chemical storage, B.O.D. bottles and a water sampler

2. pH and alkalinity. Again, chemicals, titration equipment, and a pH meter, although pH paper could be tried.

For the above tests, the methods reccommended in: Golterman. H. L., 1969. Methods for Chemical Analysis of Fresh Waters. IBP Jandbook No. 8., Blackwell Scientific Publications.

3. B.O.D. as a measure of pollution. This requires a little more sophistication.

4. Microbiological observations, especially of phytoplankton. Requires a microscope of the research type, slides, some chemicals.

Laboratory requirements

1. A bench for chemical activities such as titration, waist height, with storage space for chemicals.
2. A bench for filtering samples, close to vacuum source.
3. A dry chemical bench for balances etc.
4. A microsoope bench with kneeholes, seating height.
5. An aquarium is a possible addition to the above.

Equipment ..... Water samplers, fishnets (seines) , thermometer, microscopes, [pH meter, optional] , vacuum source, preferably small pump ($99.00).

Supplies ..... chemicals (for most of the tests you can get ampoules of standardized chemicals which just need diluting, as for oxygen and alkalinity measurements), glassware, (BOD bottles, burettes, beakers, millipore filter apparatus, millipore filters, microsocope slides and cover slips , pH paper, volumetric flasks (500 ml and 1000 ml), erlenmeyer flasks .

Some of the tests mentioned above might be suitable for adult education rather than for the children themselves. Most are not very complex, and if handled in a teaching situation a lot of information and understandiing can be derived from them .... if the person in charge is familiar with aquatic biology and chemistry.